

REMARKS

Summary of the Office Action

Claims 1, 11, 14, 18, and 20-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al. (JP 200-315414) in view of Lee, et al. (US 6,295,105).

Claims 2 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al. and Lee et al., in view of Lee (US 2003-0223020).

Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al., Lee et al., and Lee, in view of Beiswenger et al. (US 4,958,911).

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al., Lee et al., Lee, and Beiswenger, et al., in view of Shiotani et al., et al. (JP 2001-338512).

Claims 6-7 and 12-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al. and Lee et al., in view of Nakano (US 2003-0053008).

Claims 9 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al. and Lee et al. in view of Beiswenger et al.

Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al., Lee et al., and Lee in view of Shiotani et al. et al.

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al. and Lee et al. in view of Shiotani et al. et al.

Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. et al. and Lee et al. in view of Kim (US 6,064,455).

Summary of the Response to the Office Action

Applicant has canceled claim 10 without prejudice or disclaimer, and amended claims 1, 11, and 18 to further define the invention. No new material has been added. Accordingly, claims 1, 2, 4-9, 11-15, and 17-23 are currently pending in this application with claims 1 and 16 having been previously canceled.

All Claims Define Allowable Subject Matter

Claims 1, 11, 14, 18 and 20~22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. in view of Lee et al. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. and Lee et al. in view of Lee. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al., Lee et al. and Lee in view of Beiswenger. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al., Lee et al., Lee and Beiswenger in view of Shiotani et al. Claims 6-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. and Lee et al. in view of United States Patent Publication No. 2003/0053008 to Nakano. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. and Lee et al. in view of Beiswenger et al. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al., Lee et al. and Lee in view of Shiotani et al. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. and Lee et al. in view of Shiotani et al. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahama et al. and Lee et al. in view of Kim.

Reconsideration of the pending claims is respectfully requested.

As an initial matter, an object of the present invention is to provide a liquid crystal display device that prevent light leakage in a simple manner without complicating or increasing the fabrication process by substituting a lamp cover enclosing a lamp with a reflection sheet, overlapping the reflection sheet with a light guide plate, and making a bottom cover support the reflection sheet.

Claim 1 is allowable at least in that this claim recites a combination of elements, including, for example, “a backlight unit having a light guide plate, a fluorescent lamp, a reflection sheet substantially enclosing the fluorescent lamp to reflect light emitted from the fluorescent lamp, and a bottom cover having an end portion with a shape that substantially follows a contour of the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet, the reflection sheet enclosing an outer side of the florescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate, wherein the bottom cover is positioned to leave a predetermined interval from the light guide plate to simplify assembly of the light guide plate and the predetermined interval is within a range of about 0.1mm to about 50mm” and “at least one optical sheet positioned along an upper surface of the light guide plate, wherein an end portion of the optical sheet is positioned on an end portion of the reflection sheet”. The cited references do not teach or suggest at least these features of the claimed invention.

In rejecting claim 1, the Examiner acknowledges that Nagahama et al. does not specifically discloses at least one optical sheet positioned along an upper surface of the light guide plate and a chassis for supporting and affixing the liquid crystal display panel and the backlight unit. See Office Action, lines 9-11 page 3. The Examiner acknowledges that Lee et al.

discloses in Figure 9 of placing at least one optical sheet (element 116) positioned along an upper surface of the light guide plate, wherein an end portion of the optical sheet is positioned on an end portion of the reflection sheet (element 124) and further a chassis (element 130) for supporting and affixing the liquid crystal display panel and the backlight unit. See Office Action, lines 12-16 page 3.

As motivation for curing the deficiency of Nagahama et al. with Lee et al., the Examiner states, "It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display device as taught by Nagahama et al. wherein the display device further comprises optical sheets and a chassis as taught by Lee et al., since by employing the optical sheets help to improve light distribution thus providing uniform illumination of the display and the chassis helps to attach the liquid crystal display to the backlight unit.

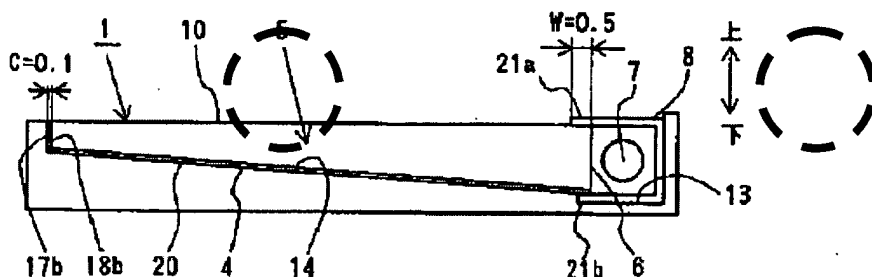
Applicant respectfully disagrees that Lee et al. cures the deficiency of Nagahama et al., since Lee et al. fails to teach "a backlight unit having a light guide plate, a fluorescent lamp, a reflection sheet substantially enclosing the fluorescent lamp to reflect light emitted from the fluorescent lamp, and a bottom cover having an end portion with a shape that substantially follows a contour of the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet, the reflection sheet enclosing an outer side of the florescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate, wherein the bottom cover is positioned to leave a predetermined interval from the light guide plate to simplify assembly of the light guide plate and the predetermined interval is within a range of about 0.1mm to about 50mm" and "at least one optical sheet

positioned along an upper surface of the light guide plate, wherein an end portion of the optical sheet is positioned on an end portion of the reflection sheet”.

Moreover, Applicant respectfully asserts that Shiotani et al. and Lee do not cure the deficiency of Nagahama et al. and Lee et al., since Shiotani et al. and Lee fail to teach “a backlight unit having a light guide plate, a fluorescent lamp, a reflection sheet substantially enclosing the fluorescent lamp to reflect light emitted from the fluorescent lamp, and a bottom cover having an end portion with a shape that substantially follows a contour of the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet, the reflection sheet enclosing an outer side of the florescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate, wherein the bottom cover is positioned to leave a predetermined interval from the light guide plate to simplify assembly of the light guide plate and the predetermined interval is within a range of about 0.1mm to about 50mm” and “at least one optical sheet positioned along an upper surface of the light guide plate, wherein an end portion of the optical sheet is positioned on an end portion of the reflection sheet”

Figure 3 of Shiotani et al. is reproduced and annotated below for convenience.

【図 3】



Accordingly, Applicant respectfully submits that claim 1 is allowable over Nagahama et al. in view of Lee et al. Applicant respectfully traverses the rejection of claims 2 and 4-9 and reconsideration is respectfully requested. Claims 2 and 4~9 are allowable at least by virtue of the fact that they depend from claim 1, which is allowable.

Similarly, claim 11 is allowable at least in that this claim recites a combination of elements, including, for example, “at least one optical sheet over the light projection plane of the light guide plate, wherein an end portion of the optical sheet is positioned on an end portion of the reflection sheet” and “a bottom cover extending from a rear side of the reflection plate to an outer side of the reflection sheet such that an end portion of the bottom cover extends to the outer side of the reflection sheet substantially following a contour of the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet, the reflection sheet enclosing an outer side of the florescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate, wherein the

bottom cover is positioned to leave a predetermined interval from the light guide plate to simplify assembly of the light guide plate and the predetermined interval is within a range of about 0.1mm to about 50mm". The cited references do not teach or suggest at least these features of the claimed invention.

As stated above, Applicant respectfully disagrees that Lee et al. cures the deficiency of Nagahama et al., since Lee et al. fails to teach these technical features of claim 11.

Accordingly, Applicant respectfully submits that claim 11 is allowable over Nagahama et al. in view of Lee et al. Applicant respectfully traverses the rejection of claims 12~15 and 17 and reconsideration is respectfully requested. Claims 12-15 and 17 are allowable at least by virtue of the fact that they depend from claim 11, which is allowable.

Moreover, claim 18 is allowable at least in that this claim recites a combination of elements, including, for example, "at least one optical sheet positioned along an upper surface of the light guide plate, wherein an end portion of the optical sheet is positioned on an end portion of the reflection sheet" and "a bottom cover along a rear side of the reflection plate having an end portion with a shape that substantially follows a contour of the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet, the reflection sheet enclosing an outer side of the florescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate, wherein the bottom cover is positioned to leave a predetermined interval from the light guide plate to simplify assembly of the light guide plate and the predetermined interval is within a range of about 0.1mm to about 50mm". The cited references do not teach or suggest at least these features of the claimed invention.

As stated above, Applicant respectfully disagrees that Lee et al. cures the deficiency of Nagahama et al., since Lee et al. fails to teach these technical features of claim 18.

Accordingly, Applicant respectfully submits that claim 18 is allowable over Nagahama et al. in view of Lee et al. Applicant respectfully traverses the rejection of claims 19~23 and reconsideration is respectfully requested. Claims 19-23 are allowable at least by virtue of the fact that they depend from claim 18, which is allowable.

Applicant believes the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

CONCLUSION

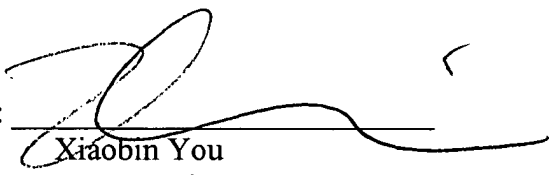
In view of the foregoing, Applicant respectfully requests entry of the amendments, reconsideration and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under

37 C.F.R. § 1.136 not accounted for above, such as an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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